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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RICHARD NORRIS DODGE II, YONG LI, SRIDHAR
RANGANATHAN, WENDY LYNN VAN DYKE, XIAOMIN X. ZHANG,
GERD JONAS, and KLAUS PFLUEGER

Appeal 2009-009670
Application 10/662,073
Technology Center 3700

Before: JENNIFER D. BAHR, STEFAN STAICOVICI, and FRED A.
SILVERBERG, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

Richard Norris Dodge II et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-9, 12-20, and 22-26 under 35 U.S.C. § 112 first paragraph, as failing to comply with the written description requirement (Ans. 5, 10); under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement (Ans. 7); under 35 U.S.C. § 112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as the invention (Ans. 12); under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over Wilson (WO 01/41818 A1, pub. Jun. 14, 2001, referred to as "Dow PCT '818" by the Examiner) (Ans. 13); and under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Pat. No. 7,285,614 and Wilson (Ans. 15). We have jurisdiction under 35 U.S.C. § 6(b).

THE INVENTION

The claims are directed to an absorbent composite comprising superabsorbent material with controlled rate behavior. Claim 1, reproduced below, is illustrative of the claimed subject matter.

1. An absorbent composite comprising superabsorbent material;
wherein the superabsorbent material has an Absorption Time of about $5+10a^2$ minutes or greater, wherein a is the mean particle size of the superabsorbent material in millimeters, and an equilibrium absorption capacity of about 15 g/g or greater as measured by the FAUZL test; and
wherein the superabsorbent material has been neutralized from 30 mole % to 65 mole % with a monovalent metal

hydroxide, and further from 5 mole % to 40 mole % with a divalent metal hydroxide.

SUMMARY OF DECISION

We AFFIRM.

ISSUES

A first issue is whether Appellants' Specification reasonably conveys to those skilled in the art that Appellants had possession of the full scope of the subject matter of claim 1 (i.e., a superabsorbent material of unspecified chemical structure having specified Absorption Time and equilibrium capacity and having been neutralized within the full scope of the ranges claimed) as of the filing date of the present application, so as to satisfy the written description requirement of 35 U.S.C. § 112, first paragraph.

A second issue is whether the disclosure of the present application is sufficient to enable a person of ordinary skill in the art to make and/or use the full scope of the invention set forth in claim 1.

A third issue is whether the scope of the ranges of neutralization set forth in claim 1 are consistent with Appellants' Specification, so as to satisfy the definiteness requirement of 35 U.S.C. § 112, second paragraph.

A fourth issue is whether Wilson describes or renders obvious an absorbent material which has been neutralized as called for in claims 1, 12, and 23.

Appellants have not contested the obviousness-type double patenting rejection of claims 1-9, 12-20, and 22-26. Thus, we summarily sustain that rejection.

For the reasons articulated on page 3 of the Answer, the issue raised on page 4 of the Appeal Brief is a petitionable matter, and thus is not within the jurisdiction of the Board. *See In re Berger*, 279 F.3d 975, 984 (Fed. Cir. 2002) (citing *In re Hengehold*, 440 F.2d 1395, 1403-04 (CCPA 1971) (stating that there are many kinds of decisions made by examiners that are not appealable to the Board when they are not directly connected with the merits of issues involving rejections of claims, and holding that “the kind of adverse decisions of examiners which are reviewable by the board must be those which relate, at least indirectly, to matters involving the rejection of claims”)); and *In re Mindick*, 371 F.2d 892, 894 (CCPA 1967) (holding that the refusal of an examiner to enter an amendment of claims is reviewable by petition under 37 C.F.R. § 1.181, and not by appeal to the Board).

FACTS PERTINENT TO THE ISSUES

1. Appellants’ Specification describes a variety of materials suitable for use as a superabsorbent material in the present invention. Spec. 5:13-29.
2. Appellants’ Specification discusses neutralizing a solution of acrylic acid in water to make the superabsorbent material having the properties claimed. Spec., Examples 1 through 8, Table 1. The solution of acrylic acid in water is the only starting material specifically discussed in Appellants’ Specification which is neutralized as claimed and is processed to have the claimed properties. *Id.* We find nothing in Appellants’ Specification which would indicate that the claimed properties necessarily would be achieved with different starting materials using the neutralization steps recited in claim 1, much less that Appellants contemplated making a superabsorbent material with the

claimed properties by subjecting any starting material other than a solution of acrylic acid in water to the claimed neutralization steps.

3. Appellants' Examples 1 through 8 disclose first neutralizing to a degree of 60, 50, 30, 40, 30, 55, 50, and 65 mole %, respectively, with sodium hydroxide, and a further 10, 20, 40, 30, 40, 15, 20, and 5 mole %, respectively, with calcium hydroxide or magnesium hydroxide (Examples 4 and 7 use magnesium hydroxide for the further neutralization). Spec. 11-16. In each of the Examples, the degree of neutralization with sodium hydroxide and the further neutralization combined is 70 mole %. Appellants' Specification, as of the filing date of the present application, gives no indication that any other combined mole % neutralization would result in a superabsorbent material having the claimed properties.
4. The Examiner has not pointed to any disclosure in Wilson of neutralizing the acid with a monovalent metal hydroxide and further neutralizing the acid with a divalent metal hydroxide. The portion beginning on page 6, line 19 of Wilson discussing neutralization describes neutralizing the acid between 20 and 95 percent, preferably between 40 and 85 percent, and most preferably between 55 and 75 percent with compounds such as alkali metal hydroxides, and alkali metal carbonates and bicarbonates, preferably sodium or potassium hydroxides or carbonates. However, Wilson does not describe neutralization with a monovalent metal hydroxide and further with a divalent metal hydroxide.

PRINCIPLES OF LAW

Written Description

The written description requirement found in the first paragraph of 35 U.S.C. § 112 is separate and distinct from the enablement requirement of that provision. *Ariad Pharm., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (citing *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1562-63 (Fed. Cir. 1991)). The purpose of the written description requirement in 35 U.S.C. § 112, first paragraph, is to “‘clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.’” *Id.* “[T]he test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Id.* This test “requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.” *Id.* “Based on that inquiry, the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed.” *Id.* This inquiry is a question of fact. *Id.* (citing *Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570, 1575 (Fed. Cir. 1985)).

A sufficient description of a genus requires disclosure of either a representative number of species falling within the scope of the genus or structural features common to the members of the genus to permit one of skill in the art to “‘visualize or recognize’ the members of the genus.” *Id.* at 1350 (quoting *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1568-69 (Fed. Cir. 1997)). “[M]erely drawing a fence around the outer limits of a purported genus is not an adequate substitute for describing a variety of

materials constituting the genus and showing that one has invented a genus and not just a species.” *Id.*

Enablement

The enablement provision of 35 U.S.C. § 112, first paragraph, requires the specification of a patent application to describe the invention, and the manner and process of making and using it, “in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.” “The enablement requirement ensures that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims.” *Nat’l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1195-96 (Fed. Cir. 1999). Accordingly, the specification must provide sufficient teaching such that one skilled in the art could make and use the full scope of the invention without undue experimentation. *CFMT, Inc. v. Yieldup Int’l Corp.*, 349 F.3d 1333, 1338 (Fed. Cir. 2003); *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997); *In re Wands*, 858 F.2d 731, 736-37 (Fed. Cir. 1988).

Anticipation

To establish anticipation, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001).

Obviousness

All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, (CCPA 1970).

Product-by-Process

The patentability of a product does not depend on its method of production. If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. *In re Thorpe*, 777 F.2d 695, 697 (Fed. Cir. 1985). Once the USPTO has made out a prima facie case that the applicant's claimed product and the product of the prior art reasonably appear to be the same, the burden shifts to the applicant to prove otherwise. *Id.*

DISCUSSION

Grouping of Claims

In contesting each of the rejections, Appellants argue all of the claims together as a group. Thus, in accordance with 37 C.F.R. § 41.37(c)(1)(vii), we select claim 1 as representative of the group, with the remaining claims standing or falling with claim 1.

Written Description

Claim 1 covers any absorbent composite comprising any material that has the specified Absorption Time and equilibrium absorption capacity and has been neutralized any mole % within the claimed range of 30 to 65 with a monovalent metal hydroxide and further any mole % within the claimed range of 5 to 40 with a divalent metal hydroxide. In other words, for example, the claims cover a material that has been neutralized 30 mole % with a monovalent metal hydroxide and further 5 mole % with a divalent metal hydroxide. *See* Ans. 6. However, as we found above, Appellants' Specification gives no indication that any combined mole % neutralization other than 70 mole %, as described in each of the Examples, would result in

a superabsorbent material having the claimed properties, or that Appellants contemplated neutralizing the material with a combined mole % different from 70%. Fact 3.

Moreover, Appellants' Specification gives no indication that the claimed properties necessarily would be achieved with starting materials other than acrylic acid in water using the neutralization steps recited in claim 1, much less that Appellants contemplated making a superabsorbent material with the claimed properties by subjecting any starting material other than a solution of acrylic acid in water to the claimed neutralization steps. Fact 2. However, Appellants' claims are drafted so broadly as to encompass a material of any chemical structure which has been neutralized as claimed and possesses the claimed absorption properties. The disclosure of only a single starting material (solution of acrylic acid in water)², without any discussion in Appellants' Specification of structural features common to all members of the genus, is insufficient to permit one of ordinary skill in the art to visualize or recognize the members of the genus.

For the above reasons, we agree with the Examiner that Appellants' Specification does not convey that Appellants had possession of the full scope of the claimed subject matter as of the filing date of the application, and thus does not satisfy the written description requirement. We sustain the rejection.

² Appellants' Specification describes a variety of materials suitable for use as a superabsorbent material in the present invention (Fact 1), but does not provide any working examples or disclosure of the processing steps and parameters required to achieve the desired absorption properties with those materials.

Enablement

As discussed above, Appellants' Specification provides working examples only for superabsorbent materials made by neutralizing a solution of acrylic acid in water a first mole % with sodium hydroxide and a further mole % with calcium hydroxide or magnesium hydroxide, wherein the degree of neutralization with sodium hydroxide and the further neutralization combined is 70 mole %. Facts 2, 3. Appellants' Specification does not provide any guidance as to what steps and degree of neutralization, if any, might be necessary to achieve the claimed absorption properties using other starting materials. Yet, Appellants identify their invention as being directed to a method of achieving those improved properties. Spec. 2:28 to 3:19; 5:31 to 6:9. Moreover, Appellants' claims are drafted so broadly as to encompass materials of any chemical structure, which have been neutralized with a monovalent hydroxide and further by a divalent metal hydroxide with a combined degree of neutralization of from as little as 35 mole % to significantly greater than 70 mole %.

Thus, we agree with the Examiner that Appellants' Specification does not provide sufficient teaching such that one skilled in the art could make and use the full scope of the claimed invention without undue experimentation. *See Wands*, 858 F.2d at 737 (factors (2), (3), (4), and (8)). We sustain the rejection.

Indefiniteness

As discussed above, the scope of the ranges of neutralization with a monovalent metal hydroxide and a divalent metal hydroxide set forth in claim 1 is not consistent with the neutralization amounts described in Examples 1 through 8 of Appellants' Specification, which provide the only guidance as to the material and processing parameters used to achieve the

claimed properties. Accordingly, claim 1 is indefinite. *See In re Cohn*, 438 F.2d 989, 993 (CCPA 1971) (sustaining rejection of claims under 35 U.S.C. § 112, second paragraph, as being indefinite, where the claims were inherently inconsistent with the description, definitions, and examples appearing in applicant's specification).

Anticipation and Obviousness

Even assuming the Examiner has correctly construed the neutralization limitations in independent claims 1, 12, and 23 as product-by-process limitations, the Examiner has not established a prima facie case that the product of claims 1, 12, and 23 is the same as, or obvious in view of, the product made by the process described by Wilson. Specifically, as argued by Appellants on page 18 of the Appeal Brief, a product neutralized by a monovalent metal hydroxide and further by a divalent metal hydroxide, as called for in claims 1, 12, and 23, seemingly would contain both monovalent metal ions and divalent metal ions in quantities commensurate with the degree of neutralization by each. The Examiner has not specifically addressed this argument, or accounted for this limitation in reading the structure of claims 1, 12, and 23 on the product of Wilson. Wilson discusses neutralizing the acid between 20 and 95 percent, preferably between 40 and 85 percent, and most preferably between 55 and 75 percent with compounds such as alkali metal hydroxides, and alkali metal carbonates and bicarbonates, preferably sodium or potassium hydroxides or carbonates, but Wilson does not describe neutralization with a monovalent metal hydroxide and further with a divalent metal hydroxide. Fact 4.

Therefore, we do not sustain the rejection of independent claims 1, 12, and 23 and their dependent claims under 35 U.S.C. § 102(b) or under 35 U.S.C. § 103(a).

DECISION

For the above reasons, the Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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